REMARKS

Reconsideration of this application and the rejection of claims 29-39, 43-49 and 52 are respectfully requested. The Applicant has attempted to comply with every requirement set forth in the Office Action dated November 25, 2009 (Paper No. 20091111) and believes that the application is now in condition for allowance. In the alternative, the claims are in better form for appeal. In this regard, the claims have been amended to more clearly define the present invention.

Claims 29-39, 43-49 and 52 are rejected under 35 U.S.C. §112, sixth paragraph, as including means plus function limitations that do not have corresponding structures, materials or acts disclosed in the specification. Applicant has amended the claims to remove the means plus function limitations. Accordingly, Applicant requests that the rejection of these claims be withdrawn.

Additionally, claims 29 and 52 are rejected under 35 U.S.C. §112 because the Examiner states that the phrase "can be" is vague and indefinite. The Examiner also states that the phrase "the fuzziness of the controller's vision and subliminal to the controller" is unclear. Furthermore, the term "could" in claim 32 is vague and indefinite. Applicant has amended claims 29, 32 and 52 to remove the vague and/or unclear terms and therefore requests that the rejection of these claims be withdrawn.

Claims 29-39, 43-49 and 52 are rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of U.S. Patent No. 6,604,044 to Kirk, U.S. Patent No. 5,212,804 to Choate and U.S. Patent No. 5,961,568 to Farahat. Applicant disagrees with and traverses this rejection for the following reasons.

Kirk discloses a method for resolving potential in-air conflicts, examining the space surrounding the aircraft, calculating maneuvers for the plane to avoid the conflict and selecting the most appropriate maneuver. Farahat is cited as teaching aircraft and radars and Choate teaches controllers having a radiotelephony link.

In contrast, amended claim 29 recites, among other things, a device for automated evolutionary assistance to air traffic controllers including "a software module for establishing and updating a computer agenda, which is a list of the aircrafts' potential conflicts on the basis of any information and computation means of the computer" where "said software module [is] . . . configured for selecting, among said computer agenda, potential conflicts on crossing trajectories which are solvable by modification(s) of aircraft speed, climbing or descending rates and lateral shift of route, said modification(s) being so minor as to not interfere with the air traffic controllers' decision making processes." The device also includes "a data link between said computer and an on-board computer of the aircraft, the data-link being used for automatically: (i) collecting complementary data from said on-board computer of the aircraft, said complementary data including flight data for

establishing said computer agenda, and (ii) transmitting said minor modification(s) of flight parameters to said on-board computer for execution by the aircraft without requiring the air traffic controllers' prior agreement." The combination of Kirk, Choate and Farahat fails to disclose or suggest such subject matter.

Kirk discloses a method for generating conflict resolution for air traffic control using Problem Analysis, Resolution and Ranking (PARR). PARR is a technique for generating resolutions for air traffic control aircraft problems for aircraft with path constraints to make sure that the resolutions are easily cleared to the pilot of the aircraft with an optimized flight plan (Col. 5, lines 24-30). The completed PARR resolutions are ranked and displayed on a display device such as a computer screen for a flight controller to select and implement one of the displayed resolutions (Col. 6, lines 49-51). In this regard, each PARR resolution is a complete trial plan which returns the maneuvered aircraft to its original route, destination, or transition, in appropriate increments. A color code for each resulting trial plan is used to color code the main menu entry displayed to the controller. The controller determines which of the entries are problem free by viewing the menu 22 (Col. 6, lines 7-10). The aircraft control method disclosed by Kirk therefore provides a plurality of resolutions to air traffic control problems and then ranks and displays those resolutions to a controller that in turn, reviews the resolutions and selects one of them to implement to resolve the air traffic control problem. Thus, Kirk fails to disclose a device that provides

modifications to an aircraft flight path that are so minor that they don't interfere with the controller's decision making process. Instead, resolutions are presented to the air traffic controller and the air traffic controller must make specific decisions on those resolutions which takes significant time by the air traffic controller. Furthermore, Kirk fails to disclose a data link between the air traffic control computer and the onboard computer of the aircraft that automatically transmits the modifications of the flight parameters to the onboard computer on the aircraft for execution by the aircraft without requiring the air traffic controllers' prior agreement or involvement as recited in amended claim 29. Instead, as stated above, the flight parameters of an aircraft controlled by the system disclosed in Kirk are not modified until the air traffic controller selects one of the resolutions to implement.

Choate discloses an air to ground communication system for controlling multiple two-way radios, telephone conversations between a large number of aircraft and a network of base stations that are capable of being interconnected to landline telephone networks. Choate does not remedy the deficiencies of Kirk.

Similarly, Farahat discloses a system for communicating between an aircraft and an air traffic control system. A computer implements a conflict resolution method for resolving air traffic conflicts involving several aircrafts. Farahat does not remedy the deficiencies of Kirk.

Accordingly, Applicant submits for at least the reasons provided above, that amended claim 29, and the claims that depend therefrom, are each patentably distinguished over the combination of Kirk, Choate and Farahat and in condition for allowance.

Amended claim 52 includes similar subject matter to amended claim 29. Specifically, amended claim 52 recites, among other things, a method for automated evolutionary assistance to air traffic controllers that includes the steps of "establishing and updating a computer agenda, which is a list of the aircrafts' potential conflicts on the basis of any information and computation means of the computer," "establishing a data link between said computer and an on-board computer of the aircraft, the data-link being used for automatically: (i) collecting complementary data from said on-board computer of the aircraft, said complementary data including flight data for establishing said computer agenda, and (ii) transmitting said minor modification(s) of flight parameters to said on-board computer for execution by the aircraft without requiring the air traffic controllers' prior agreement." As stated above, the cited combination of Kirk, Choate and Farahat fails to disclose or suggest automatically transmitting modifications of flight parameters to an onboard computer of an aircraft without requiring the air traffic controller's prior agreement for involvement. Accordingly, Applicant submits that amended claim 52 is patentably distinguished over the combination of Kirk, Choate and Farahat and in condition for allowance.

Claims 29-39, 43-49 and 52 are rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of U.S. Patent No. 6,314,362 to Erzberger et al., Choate and Farahat. Applicant disagrees with and traverses this rejection for the following reasons.

Erzberger discloses a method and system for an automated tool for en route traffic controller that finds all aircraft flying on inefficient routes and then determines whether it is possible to save time by bypassing similar route segments and determining whether the improved route is free of conflicts with other aircrafts. The method includes the steps of searching for and identifying tracked aircraft and their associated flight plans, selecting those having one or more direct routes that will reduce the time of the flight to the destination, identifying potential conflicts along the selected routes and updating the flight plans of the tracked aircraft so the aircraft can benefit from one or more direct routes.

Erzberger fails to disclose or suggest a software module that is configured to select potential conflicts that are solvable by minor modifications such as aircraft speed or climbing and descending rates, or a data link that transmits the minor modifications of flight parameters to an onboard computer for execution by the aircraft without requiring the air traffic controller's prior agreement. Instead, Erzberger discloses changing one or more of the routes of an aircraft to direct routes, which is a major modification to the flight plan that requires review by an air traffic controller.

Furthermore, after the flight plan is changed to incorporate one or more direct routes to reduce the time of the flight to a destination, the system identifies potential conflicts along the direct-to route (Col. 5, lines 1-4). In fact, Erzberger specifically states that:

> Controllers [i.e., air traffic controllers] . . . do not consider the conflict status as the definitive accept/reject criterion for issuing a direct-to clearance. Instead, they base their decision to issue a direct-to clearance on their overall assessment of the traffic situation, their knowledge of the airspace as well as the conflict status shown in the List. These controller opinions reflect a basic characteristics of this or any decision support tool, namely that the information provided by the Tool is advisory only and as such is not a substitute for good controller judgment. Thus, the controller should always augment the advisory information provided by the Tool with her analysis of the traffic situation before issuing a direct-to clearance (Col. 10, line 64 to Col. 11, line 8).

Thus, the system of Erzberger does not automatically transmit modifications to the flight parameters of an onboard computer of an aircraft as recited in amended claims 29 and 52. Instead, the conflict information is advisory only and is still reviewed by an air traffic controller to make a decision on whether to change the flight path of an aircraft. Erzberger's system therefore involves significant air traffic controller review and attention. Furthermore, as stated above, neither Choate nor Farahat remedy the deficiencies of Erzberger.

Accordingly, Applicant submits that amended claims 29 and 52, and the claims that depend therefrom are each patentably distinguished over the combination of Erzberger, Choate and Farahat and in condition for allowance.

In view of the above remarks, the application is respectfully submitted to be in allowable form. Allowance of the rejected claims is respectfully requested. Alternatively, the claims are placed in better form for appeal. Should the Examiner discover there are remaining issues, which may be resolved by a telephone interview, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

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